

SCR Power Controllers

For Electrical Resistance Heaters

125, 200, 250 Amp

SCR19-H and
SCR39-H Series



- ✓ Zero Crossing or Phase-Angle Fired
- ✓ Diagnostic LED Indicators
- ✓ Single- or 3-Phase Load Switching
- ✓ Extends Heater Life—Reduces Thermal Shock
- ✓ No Maintenance—All Solid State Components
- ✓ Close Control of Low Mass Heaters
- ✓ Phase Angle with Soft Start for High Inrush Heaters
- ✓ No Relay Noise—Contact Arc Noise Eliminated
- ✓ Semiconductor I²T Fusing
- ✓ Optically Isolated 4 to 20 mA Control Signal Input
- ✓ Fan Cooled

The SCR19-H and SCR39-H Series power controllers are designed to proportion electric power to resistive loads only, such as ovens, furnaces, heat sealers, etc. The controllers consist of power semi-conductors (SCRs), properly sized heat sinks, trigger circuitry, and fuses supplied on panels for surface mounting.

(Note: They are not designed to drive transformers or any inductive load.)

The power controller accepts a 4 to 20 mAdc output from a temperature controller.



SCR39Z-H-48-250 shown smaller than actual size.

Zero Voltage Switched Models

The SCR19Z-H and SCR39Z-H SCR power controllers are zero crossover fired, high-power solid state switched devices. Zero crossover firing eliminates the RFI (radio frequency interference) generation associated with mechanical relays. With zero crossover firing, the output appears as bursts of full sine waves of line voltage which provides excellent regulation to the load.

Phase Angle Fired Models

The SCR19P-H and SCR39P-H SCR phase-angle fired power controllers turn on each SCR for a controlled portion of a half-cycle of the line voltage. The effective line voltage is determined by the portion of the line voltage delivered, which is proportional to the input control signal. Additionally, the voltage is regulated as the line voltage changes.

Dimensions: mm (inch)

Model No.	Height	Width	Depth
SCR19-H	222.25 (8.750)	135.12 (5.320)	370.84 (14.6)
SCR19P-H	222.25 (8.750)	135.12 (5.320)	370.84 (14.6)
SCR39Z-H	222.25 (8.750)	287.02 (11.3)	370.84 (14.6)
SCR39P-H	222.25 (8.750)	394.46 (15.530)	370.84 (14.6)

Note: When fuses are added to unit, add 83 mm (3.3") to height.

Specifications

Supply Voltage: 120 to 600 Vac

Frequency: 50 to 60 Hz

Current Rating: 125 to 250 A

Input Control Signal Isolation:
2500 Vac

Transient Voltage Protection:
Inherent built-in immunity

Ambient Temperature: 0 to 50°C
(32 to 122°F)

Load: Resistive

SCR39Z-H: 1-phase, 2-leg
control for 3-wire delta, 3-phase
ungrounded wye

SCR19Z-H: 1-phase, 1-leg control

SCR39P-H: 3-phase, 3-leg half
control for 3-wire delta or 3-phase
ungrounded wye

SCR19P-H: 1-phase, 1-leg control

Diagnostic Indicators: Shorted or
open SCR

Cooling: Fan cooled, requires 120 Vac
control voltage

Single-Phase Load Current (Amps) Equation

$$\text{Total Amps} = \frac{\text{Total Watts (Load)}}{\text{Volts (Line Voltage)}}$$

Three-Phase Load Current (Amps) Equation

$$\text{Total Amps} = \frac{\text{Total Watts (Load)}}{1.73 \times \text{Volts (Line Voltage)}}$$



OMEGACARESM extended warranty program
is available for models shown on this page.
Ask your sales representative for full details
when placing an order. OMEGACARESM
covers parts, labor and equivalent loaners.

(*) Specify Line Voltage

Code	Description
12	120 Vac
20	208 Vac
24	240 Vac
48	480 Vac

(**) Soft Start or Voltage Limit

Code	Description
S9	Soft start 9 seconds
S15	Soft start 15 seconds
S30	Soft start 30 seconds
S60	Soft start 60 seconds
S120	Soft start 120 seconds
V	Voltage limit

Phase-Angle Firing Models

To Order		
Model No.	Current Load (A)	Weight kg (lb)
Single-Phase Models		
SCR19P-H-(*)-125-(**)	125	6.1 (13.5)
SCR19P-H-(*)-200-(**)	200	6.4 (14.0)
SCR19P-H-(*)-250-(**)	250	6.4 (14.0)
3-Phase Models		
SCR39P-H-(*)-125-(**)	125	16.1 (35.5)
SCR39P-H-(*)-200-(**)	200	16.8 (37.0)
SCR39P-H-(*)-250-(**)	250	16.8 (37.0)

All phase-angle models come complete with 1 fuse per SCR line controlled, and operator's manual.

Ordering Examples: SCR19P-H-24-125-S30, 125 A, 240V single-phase-angle model with a 30 second soft start option. OCW-3, OMEGACARESM extends standard 2-year warranty to a total of 5 years.

SCR39P-H-48-200-S9, 200 A, 480V three-phase-angle model with a 9 second soft start option.

Zero-Voltage Switching Models

Model No.	Current Load (A)	Weight kg (lb)
120 to 480V, Single-Phase Models		
SCR19Z-H-48-125	125	6.1 (13.5)
SCR19Z-H-48-200	200	6.4 (14.0)
SCR19Z-H-48-250	250	6.4 (14.0)
120 to 480V, 3-Phase Models		
SCR39Z-H-48-125	125	12.5 (27.0)
SCR39Z-H-48-200	200	12.5 (27.5)
SCR39Z-H-48-250	250	12.5 (27.5)

All zero-voltage models come complete with 1 fuse per SCR line controlled, and operator's manual.

Ordering Examples: SCR19Z-H-48-250, 250 A, 120-480V, single-phase zero-voltage model.

SCR39Z-48-125, 125 A, 120-480V, three-phase, zero-voltage model.

OCW-1, OMEGACARESM extends standard 2-year warranty to a total of 3 years.

Replacement Fuses for SCR19-H, SCR39-H Series (120 to 480 Vac)

Model No.	Current (A)
SCR-210A044U01	125
SCR-210A046U01	200
SCR-210A045U01	250